

Customer No.: 31561
Application No.: 10/711,568
Docket No.: 13216-US-PA

To the Drawing:

Please replace Figures 3 and 4 by the replacement sheets. In this amendment, Figures 3 and 4 are marked by "PRIOR ART" and no new matter is introduced.

Customer No.: 31561
Application No.: 10/711,568
Docket No.: 13216-US-PA

REMARKS

Present Status of the Application

Drawings are objected to because Figure 3 and Figure 4 are not marked as Prior Art and the first and second input ESD protection circuits are not shown. Claims 7 and 19-20 are objected to because of the informalities. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu (US 6,618,230, hereinafter as "Liu") in view of Gonthier (US 6,208,126, hereinafter as "Gonthier"). Claims 13-18 are allowed. Claims 19-20 would be allowable if rewritten to overcome the objections. Reconsideration and allowance of the claims are respectfully requested.

Discussion of Drawing Objections

In this reply, Figure 3 and Figure 4 are additional marked by "PRIOR ART". Besides, the features "the first and second input EDS protection circuits" in Claim 20 refers to the combinations of elements Dp1 and Dn1, and Dp2 and Dn2 in Figures 14-16 respectively. The Drawing Objections should be withdrawn.

Discussion of Claim Objection

Claims 7 and 19-20 are objected to because of the informalities. In this reply, recitation of "an" in Claim 7, line 12 is corrected to "a". Claim 19 is amended as being dependent to Claim 18, so the limitation "third and fourth transistors" has sufficient antecedent basis. As discussed

Customer No.: 31561
Application No.: 10/711,568
Docket No.: 13216-US-PA

above, "the first and second input EDS protection circuits" in Claim 20 refers to the combinations of elements Dp1 and Dn1, and Dp2 and Dn2 in Figures 14-16 respectively. The Claim Objections should be withdrawn.

Discussion of Claim Rejection under 35 USC 103(a)

According to the MPEP §2143.01, "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found in either the references themselves or in the knowledge generally available to one of ordinary skill in the art."

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu in view of Gonthier. Applicant respectfully disagrees and traverses the above rejection as set forth below.

In Claim 1 of the application, a diode connected transistor combination is recited. But in Liu, Fig. 3 shows two groups of diodes used as one kind of ESD cells and Fig. 4 shows two groups of MOS transistors used as another kind of ESD cells. According to the specification of Liu (col. 1, line 57 – col. 2, line 8) and the BRIEF DESCRIPTION OF THE DRAWINGS, Fig. 3 and Fig. 4 are two different implements used in two different kinds of ESD cells. Both the diode and the MOS transistor jointly used in "A ESD protection circuit", as recited in Claim 1, is never disclosed or suggested in this reference. In addition, MOS transistors shown in Fig. 4 of Liu are used as "diodes", not as transistors. Equivalently, Liu just discloses diodes (or diode-connected

Customer No.: 31561
Application No.: 10/711,568
Docket No.: 13216-US-PA

MOS transistors). Further, Liu does not teach or suggest or provide a motivation to make a diode connected transistor combination.

The other reference, Gonthier, is a circuit for controlling an AC load using a low voltage control signal. This reference never disclosed any ESD protection circuit, which is claimed in the present application. According to MPEP 2141.01(a), "to rely on a reference under 35 USC 103, it must be analogous prior art", and "the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned". Gonthier never disclosed any ESD protection circuit, and is neither in the field of applicant's endeavor nor reasonably pertinent to the particular problem with which was the inventor concerned. Therefore, the rejection under 35 USC 103 citing Liu and Gonthier is an improper combination and should be withdrawn.

Even though the two improper references can be hypothetically combined, there are also several reasons show the rejection is improper. In Gonthier, the combination of MOS transistor 30 and diode D1 is used as a part of a bidirectional switch, or said as a unidirectional switch. Therefore, Gonthier does not provide a suggestion to modify Liu because the nature of the problem to be solved is different. Claim 1 of the application and Liu both direct to ESD protection, but Fig. 4 of Gonthier directs to a level shifter and a unidirectional switch. When one skilled in the field of ESD protection circuit wants to design an ESD protection circuit with diode connected transistor configuration, he wouldn't have a motivation to make reference to Gonthier because Gonthier does not disclose anything about "ESD protection circuit".

Customer No.: 31561
Application No.: 10/711,568
Docket No.:13216-US-PA

More importantly, it is not known in the art that the use of a diode connected transistor feature would form a parasitic silicon-controlled rectifier (SCR) for providing a static discharge route. If this is known, then Liu, who discloses an ESD protection circuit, will disclose this feature. However, Liu does not disclose this feature. This feature is disclosed and claimed by the Applicant, neither by Liu nor Gonthier.

Furthermore, from Fig. 3 and Fig. 4 of Gonthier, the MOS transistor 30 and diode D1 are coupled between a node E1 and a node A. The node E1 represent the phase of supply Vac and the node A is just an interconnection of load 2 with switch 1' (formed by MOS transistor 30 and diode D1). It is clear that node A is not another power supply line. But in Claim 1 of the application, the diode connected transistor combination is coupled between two power lines.

The combination of Liu and Gonthier does not make the claimed invention obvious. The rejection on Claim 1 should be withdrawn.

Regarding claims 2-6, since the independent claim 1 is proved nonobvious above and should be allowed, claims 2-6 should be also allowed. According to MPEP 2143.03, if an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Reconsideration and allowance of the rejection of claims 1-6 is therefore respectfully requested.

Regarding claim 7, because the independent claim 7 recites similar features to Claim 1 and the reasons for withdrawing the improper rejection are explain in detail above, the rejection

Customer No.: 31561
Application No.: 10/711,568
Docket No.: 13216-US-PA

on Claim 7 should be withdrawn. In addition, Claims 8-12, which depend from claim 7 should be also allowed.

Prior Art Made of Record

The prior art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.

Customer No.: 31561
Application No.: 10/711,568
Docket No.: 13216-US-PA

CONCLUSION

For at least the reasons set forth above, Applicant respectfully submits that all rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and the pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney.

Date: Jan. 26, 2006

Respectfully submitted,


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